FIG. 1

START

S1 RECEIVE BROADCAST NOTIFICATION INFORMATION

S2 DETERMINE WHETHER NOTICE DISPLAY IS NECESSARY/UNNECESSARY

S3 DISPLAY BROADCAST PROGRAM SELECTION SCREEN

S4 ACQUIRE BROADCAST PROGRAM INFORMATION

S5 RECEIVE BROADCAST DATA

S6 BROADCAST DATA RECEIVE PROCESSING

S7 SET BROADCAST DATA ALREADY READ FLAG

S8 SAVE NOTIFICATION UNNECESSARY INFORMATION

S9 END RECEPTION OF BROADCAST

END

FIG. 2

BROADCAST DATA COMMUNICATION SYSTEM

BROADCAST DATA TRANSMISSION SERVER 10

INTERNET 60

CORE NETWORK 20

BROADCAST DATA PROVIDING SERVER 51

BROADCAST DATA RECEIVING TERMINAL 41

FIG. 3

COMMUNICATION SECTION 400

BROADCAST NOTIFICATION INFORMATION RECEIVING SECTION 401

BROADCAST PROGRAM INFORMATION ACQUISITION SECTION 402

BROADCAST DATA RECEIVING SECTION 403

BROADCAST DATA PROCESSING SECTION 410

NEWS DISPLAY OUTPUT DETERMINATION SECTION 411

BROADCAST DATA RECEIVING DETERMINATION SECTION 412

BROADCAST END PROCESSING SECTION 413

INPUT/OUTPUT PROCESSING SECTION 430

BROADCAST DATA SAVING SECTION 420

INFORMATION OUTPUT SECTION 440

OPERATION INPUT SECTION 450

DISPLAY 441

SPEAKER 442

VIBRATOR 443

INPUT KEY 451

INPUT BUTTON 452

AUDIO INPUT SECTION 453

FIG. 4

BROADCAST NOTIFICATION INFORMATION D1(a)

D2: BROADCAST NOTIFICATION INFORMATION IDENTIFIER

BASEBALL

BROADCAST NOTIFICATION INFORMATION D1(b)

BASEBALL

BROADCAST NOTIFICATION INFORMATION D1(C)

SOCCER

FIG. 5

BROADCAST PROGRAM INFORMATION

SOCCER

WORLD CUP HIGHTLIGHTS

FIG. 6

INFORMATION SERVICE

CURRENTLY ON AIR!

BASEBALL

FIG. 7

INFORMATION SERVICE

ON AIR!

SOCCER

BASEBALL

FIG. 8

BROADCAST DATA TRANSMISSION SERVER 10

BROADCAST DATA ACQUISITION SECTION 101

BROADCAST DATA SAVING SECTION 102

IDENTIFIER ADDITION SECTION 103

BROADCAST NOTIFICATION INFORMATION TRANSMISSION SECTION 104

BROADCAST PROGRAM INFORMATION REQUEST RECEIVING SECTION 105

ANALYSIS SECTION 106

BROADCAST PROGRAM INFORMATION TRANSMISSION SECTION 107

BROADCAST DATA TRANSMISSION SECTION 108

FIG. 9

BROADCAST DATA RECEIVING TERMINALS 41 TO 43

BROADCAST DATA TRANSMISSION SERVER 10

BROADCAST NOTIFICATION INFORMATION D1(a)

BROADCAST NOTIFICATION INFORMATION D1(b)

BROADCAST NOTIFICATION INFORMATION D1(c)

NEW PROGRAM DETECTION

RECEIVABLE NOTIFICATION INFORMATION (BROADCAST PROGRAM INFORMATION REQUEST)

BROADCAST PROGRAM INFORMATION

BROADCAST DATA

FIG. 10

BROADCAST DATA TRANSMISSION SERVER 10

BROADCAST DATA ACQUISITION SECTION 101

SERVICE IDENTIFIER ADDITION SECTION 109

BROADCAST NOTIFICATION INFORMATION TRANSMISSION SECTION 104

BROADCAST DATA SAVING SECTION 102

ANALYSIS SECTION 106

BROADCAST PROGRAM INFORMATION REQUEST RECEIVING SECTION 105

TRANSMISSION PROGRAM INFORMATION TRANSMISSION SECTION 107

BROADCAST DATA TRANSMISSION SECTION 108

FIG. 11

BROADCAST NOTIFICATION INFORMATION D1(d)

SPORTS LIVE

BASEBALL

SOCCER

TENNIS

SKATING

BROADCAST NOTIFICATION INFORMATION D1(e)

SPORTS LIVE

BASEBALL

SOCCER

TENNIS

SKATING

BROADCAST NOTIFICATION INFORMATION D1(f)

SPORTS LIVE

BASEBALL

SOCCER NEW PROGRAM

TENNIS

SKATING

FIG. 12

INFORMATION SERVICE

SPORTS LIVE

BASEBALL

SOCCER

TENNIS

SKATING

FIG. 13

INFORMATION SERVICE

SPORTS LIVE

BASEBALL

SOCCER (UPDATED)

TENNIS

SKATING

FIG. 14

BROADCAST DATA RECEIVING TERMINALS 41 TO 43

BROADCAST DATA TRANSMISSION SERVER 10

BROADCAST NOTIFICATION INFORMATION D1(d)

BROADCAST NOTIFICATION INFORMATION D1(e)

BROADCAST NOTIFICATION INFORMATION D1(f)

NEW PROGRAM DETECTION

RECEIVABLE NOTIFICATION INFORMATION (BROADCAST PROGRAM INFORMATION REQUEST)

BROADCAST PROGRAM INFORMATION

BROADCAST DATA

FIG. 15

START

S10 RECEIVE BROADCAST NOTIFICATION INFORMATION

S11 DETERMINE RECEPTION OF BROADCAST DATA

S12 ACQUIRE BROADCAST PROGRAM INFORMATION

S13 DISPLAY BROADCAST PROGRAM SELECTION SCREEN

S14 RECEIVE BROADCAST DATA

S15 BROADCAST DATA RECEIVE PROCESSING

S16 SET BROADCAST DATA ALREADY READ FLAG

S17 SAVE NOTIFICATION UNNECESSARY INFORMATION

S18 END RECEPTION OF BROADCAST

END

FIG. 16

BROADCAST DATA RECEIVING TERMINALS 41 TO 43

BROADCAST DATA TRANSMISSION SERVER 10

BROADCAST NOTIFICATION INFORMATION D1(X)

BROADCAST NOTIFICATION INFORMATION D1(Y)

BROADCAST NOTIFICATION INFORMATION D1(Z)

NEW PROGRAM DETECTION

RECEIVABLE NOTIFICATION INFORMATION (BROADCAST PROGRAM INFORMATION REQUEST)

BROADCAST PROGRAM INFORMATION

BROADCAST DATA

FIG. 17

BROADCAST NOTIFICATION INFORMATION D1(X)

BROADCAST NOTIFICATION INFORMATION D1(Y)

BROADCAST NOTIFICATION INFORMATION D1(Z)

FIG. 18

BROADCAST PROGRAM INFORMATION

SOCCER

SPORT ON AIR

FIG. 19

INFORMATION SERVICE

SPORT ON AIR

BASEBALL

FIG. 20

INFORMATION SERVICE

SPORT ON AIR

SOCCER

BASEBALL (ALREADY VIEWED)

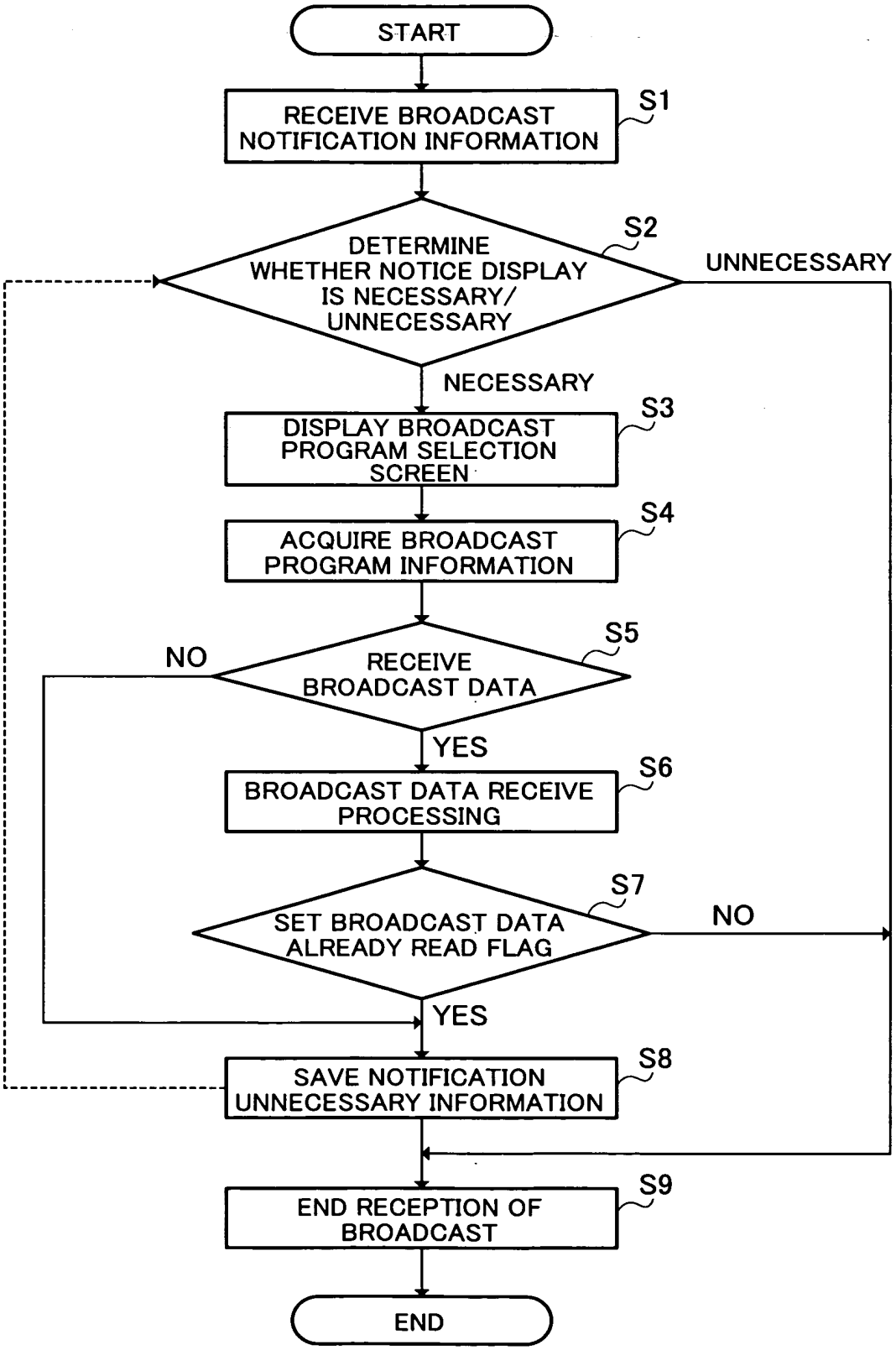

START
RECEIVE BROADCAST NOTIFICATION INFORMATION
S1
DETERMINE WHETHER NOTICE DISPLAY IS NECESSARY/ UNNECESSARY
S2
UNNECESSARY
NECESSARY
DISPLAY BROADCAST PROGRAM SELECTION SCREEN
S3
ACQUIRE BROADCAST PROGRAM INFORMATION
S4
RECEIVE BROADCAST DATA
S5
NO
YES
BROADCAST DATA RECEIVE PROCESSING
S6
SET BROADCAST DATA ALREADY READ FLAG
S7
NO
YES
SAVE NOTIFICATION UNNECESSARY INFORMATION
S8
END RECEPTION OF BROADCAST
S9
END

FIG.1

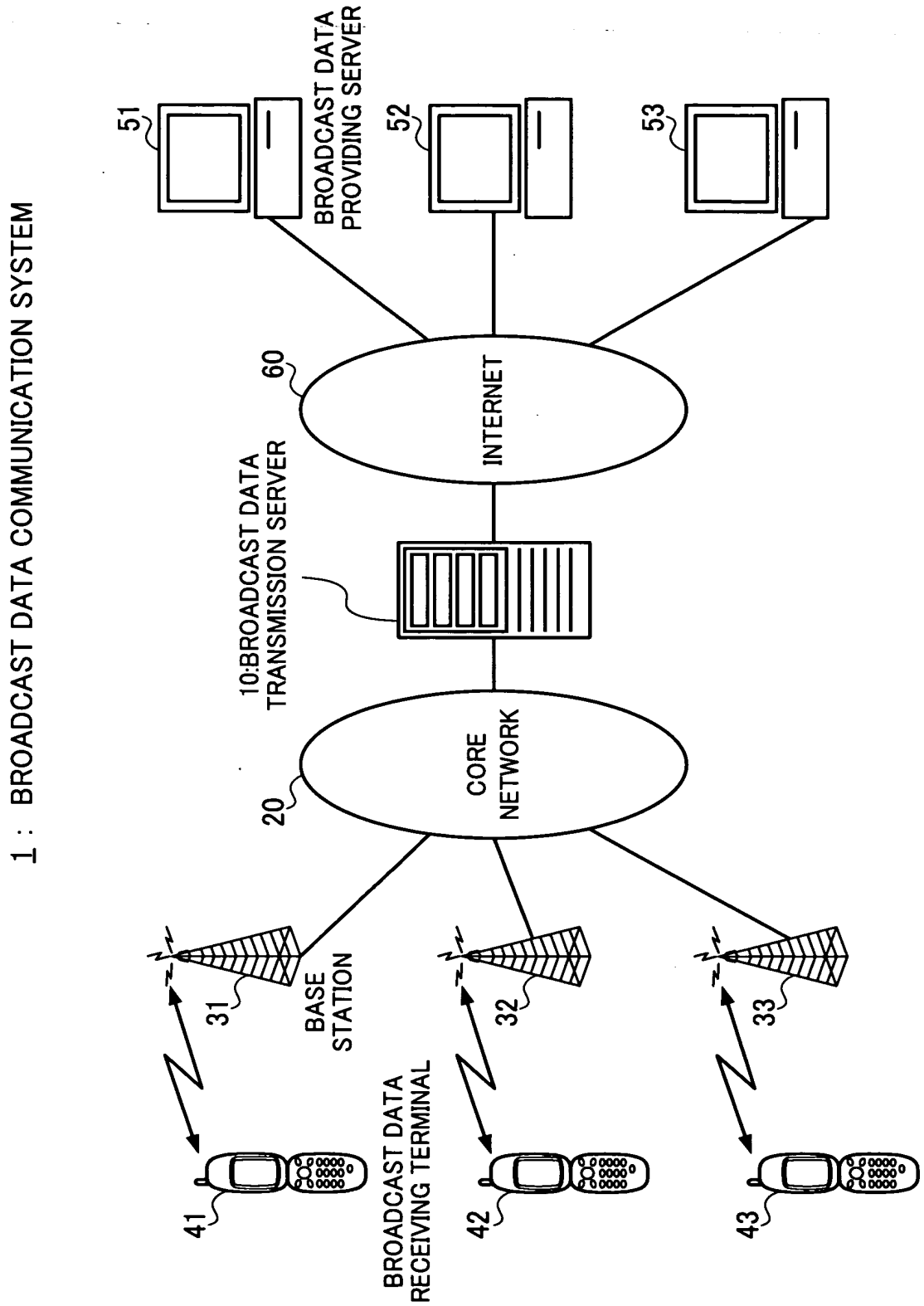

1 : BROADCAST DATA COMMUNICATION SYSTEM
51
BROADCAST DATA PROVIDING SERVER
52
53
60
INTERNET
10:BROADCAST DATA TRANSMISSION SERVER
20
CORE NETWORK
31
BASE STATION
32
33
41
42
43
BROADCAST DATA RECEIVING TERMINAL

FIG.2

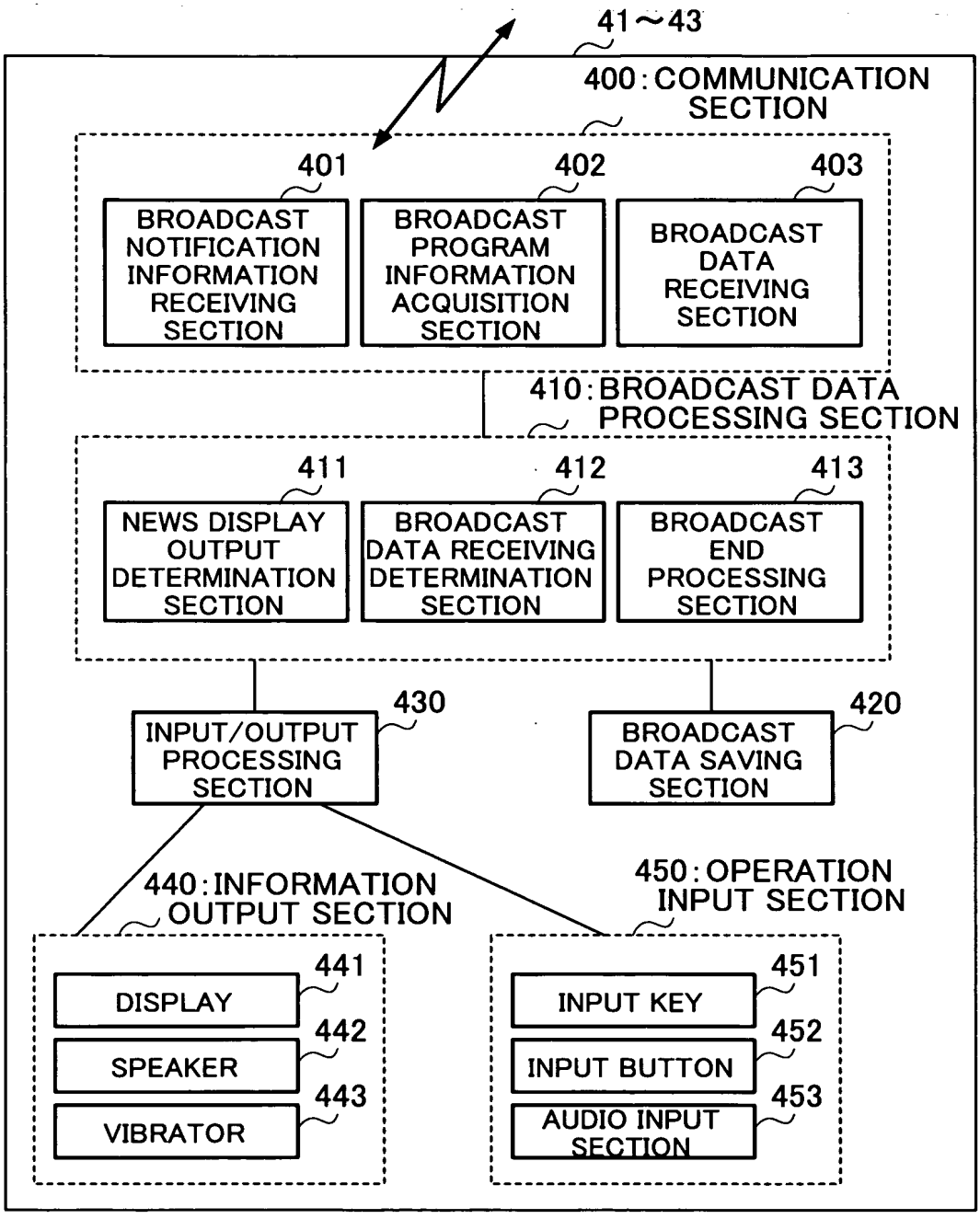
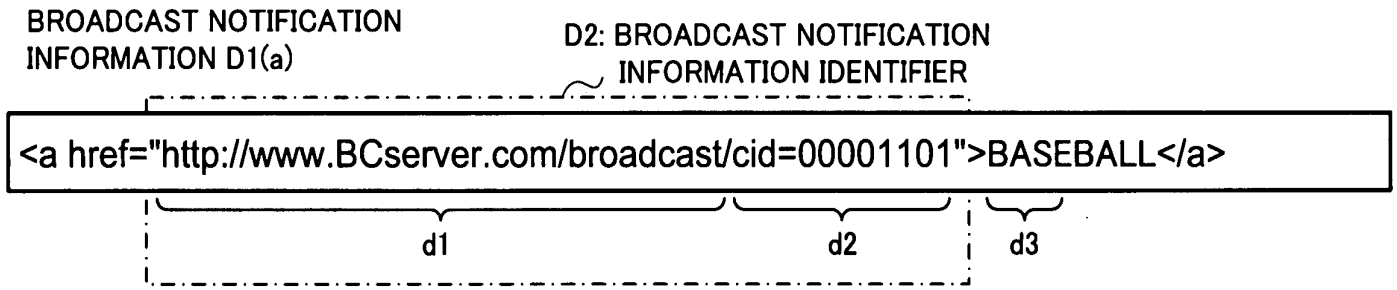

41～43
400:COMMUNICATION SECTION
401
BROADCAST NOTIFICATION INFORMATION RECEIVING SECTION
402
BROADCAST PROGRAM INFORMATION ACQUISITION SECTION
403
BROADCAST DATA RECEIVING SECTION
410:BROADCAST DATA PROCESSING SECTION
411
NEWS DISPLAY OUTPUT DETERMINATION SECTION
412
BROADCAST DATA RECEIVING DETERMINATION SECTION
413
BROADCAST END PROCESSING SECTION
430
INPUT/OUTPUT PROCESSING SECTION
420
BROADCAST DATA SAVING SECTION
440:INFORMATION OUTPUT SECTION
450:OPERATION INPUT SECTION
441
DISPLAY
442
SPEAKER
443
VIBRATOR
451
INPUT KEY
452
INPUT BUTTON
453
AUDIO INPUT SECTION

FIG.3



BROADCAST NOTIFICATION INFORMATION D1(b)

```
<a href="http://www.BCserver.com/broadcast/cid=00001101">BASEBALL</a>
```

BROADCAST NOTIFICATION INFORMATION D1(C)

```
<a href="http://www.BCserver.com/broadcast/cid=00001115">SOCCER</a>
```

FIG.4

BROADCAST PROGRAM INFORMATION 00001115.sdp

```
v=0
o=anonymous 2890844526 2890842807 IN IP4 192.168.10.10
s=SOCCER
i=WORLD CUP HIGHTLIGHTS
e=anonymous@mail.com
c=IN IP4 0.0.0.0
b=AS:128
t=0  0
m=Video 0 RTP/AVP 96
b=AS:128
a=rtpmap:96 H263-2000/90000
a=fmtp:96 profile=3;level=1
m=audio 0 RTP/AVP 97
a=rtpmap:97 AMR/8000
a=fmtp:97
b=AS:13
```

FIG.5

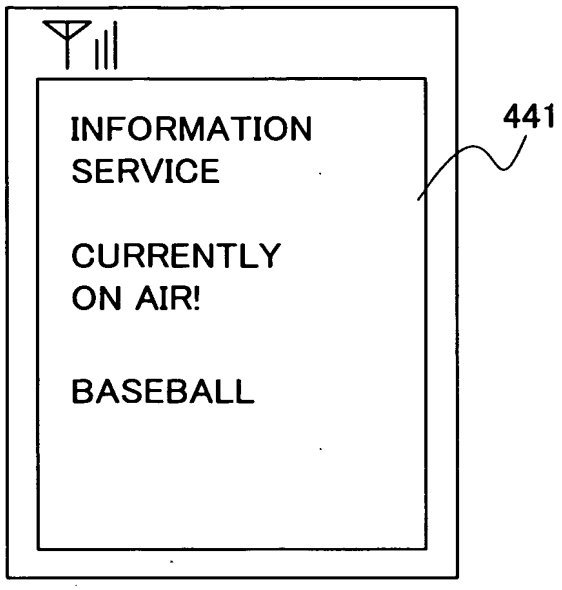

INFORMATION
SERVICE
CURRENTLY
ON AIR!
BASEBALL
441

FIG.6

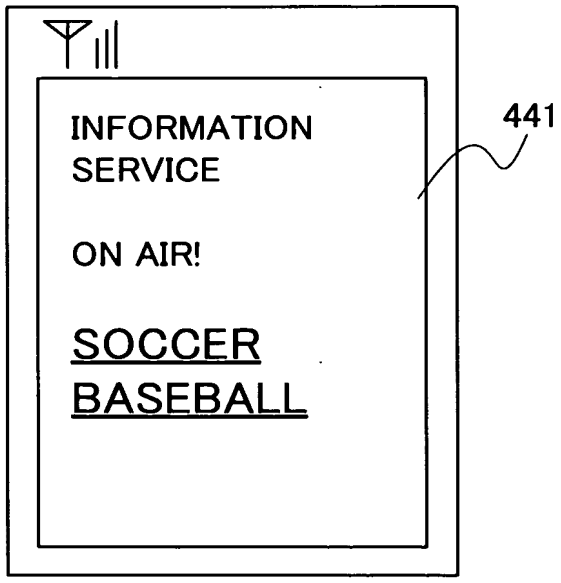

INFORMATION
SERVICE
ON AIR!
SOCCER
BASEBALL
441

FIG.7

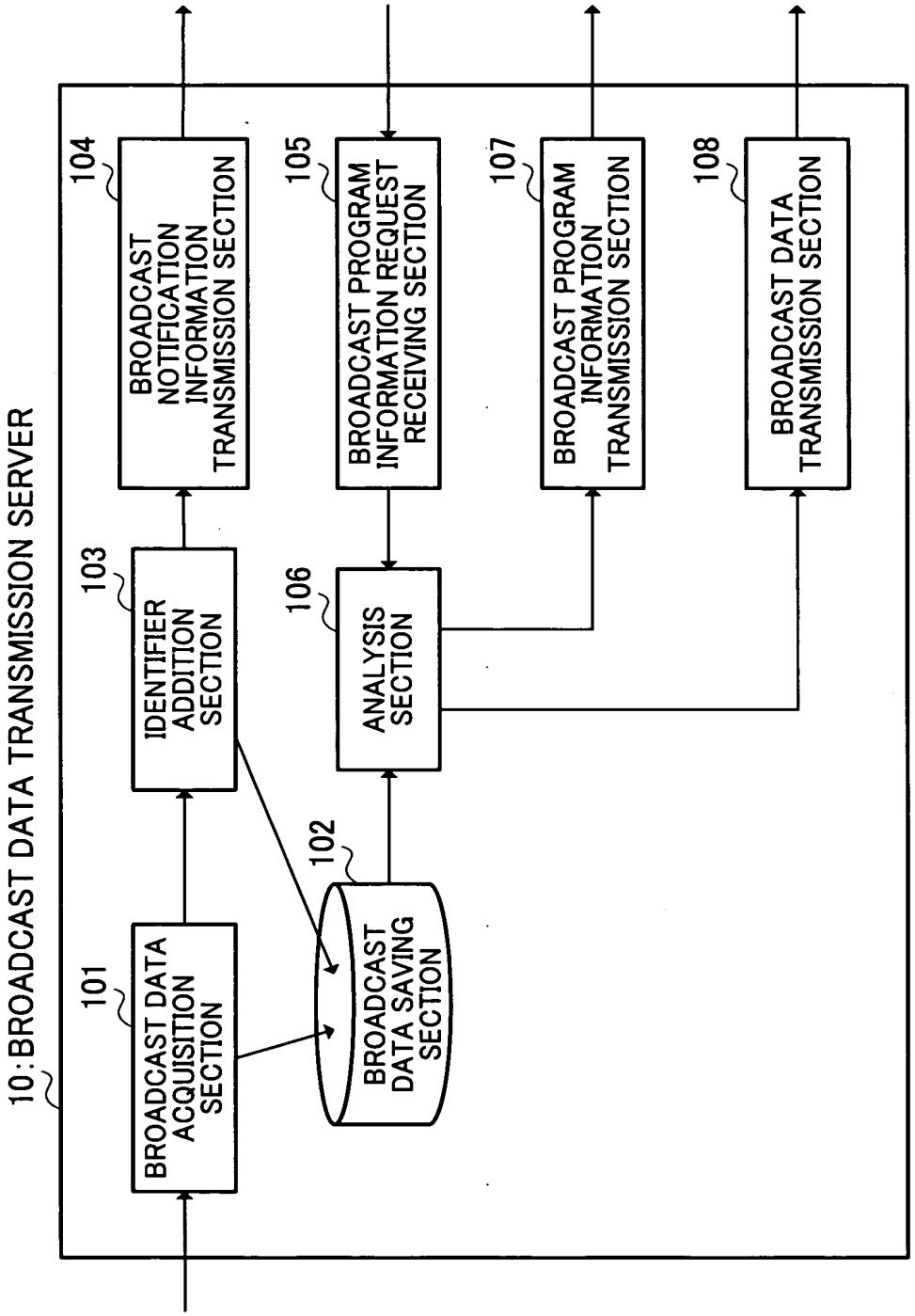

10:BROADCAST DATA TRANSMISSION SERVER
101
BROADCAST DATA ACQUISITION SECTION
102
BROADCAST DATA SAVING SECTION
103
IDENTIFIER ADDITION SECTION
104
BROADCAST NOTIFICATION INFORMATION TRANSMISSION SECTION
105
BROADCAST PROGRAM INFORMATION REQUEST RECEIVING SECTION
106
ANALYSIS SECTION
107
BROADCAST PROGRAM INFORMATION TRANSMISSION SECTION
108
BROADCAST DATA TRANSMISSION SECTION

FIG.8

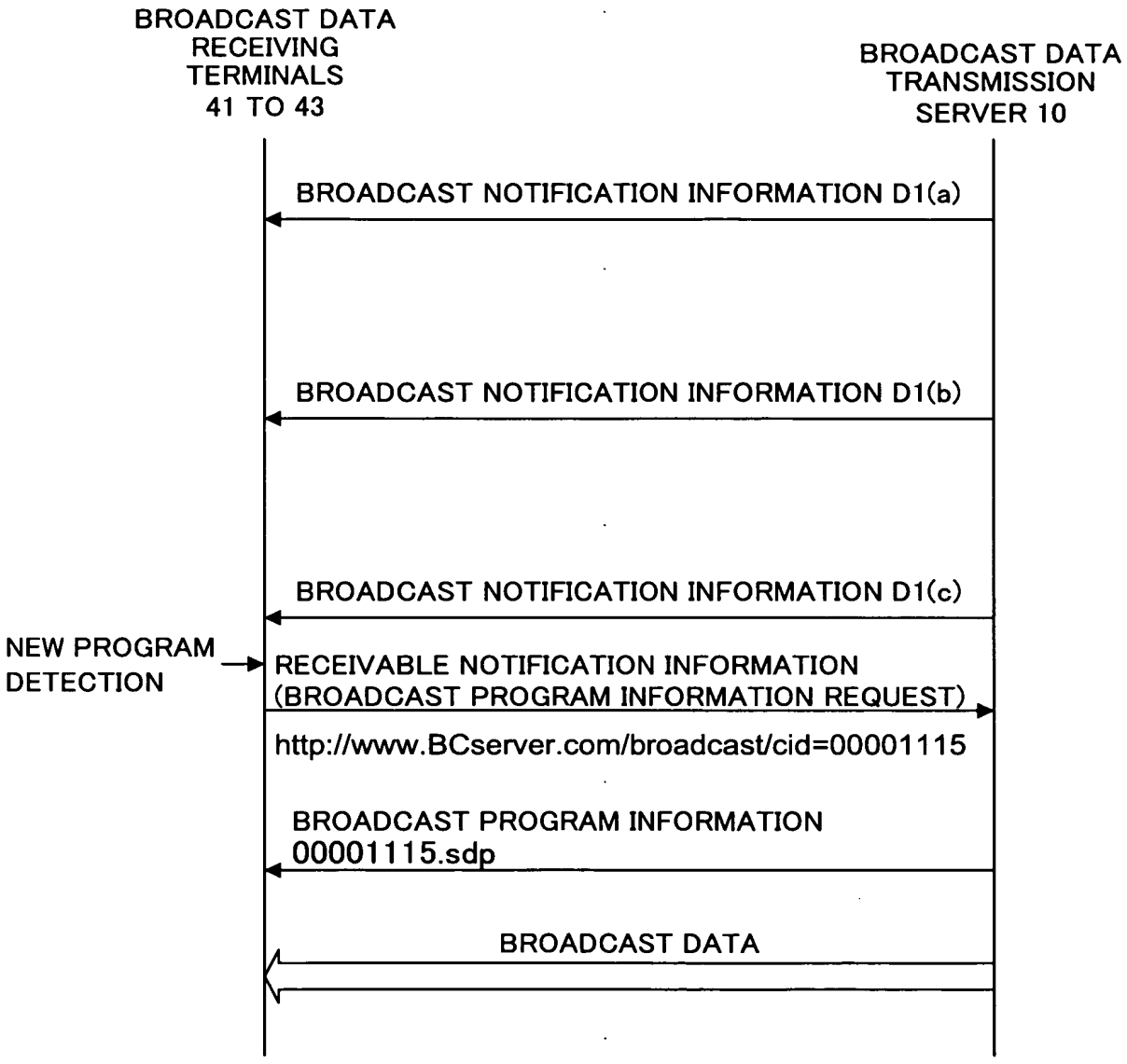

BROADCAST DATA RECEIVING TERMINALS 41 TO 43
BROADCAST DATA TRANSMISSION SERVER 10
BROADCAST NOTIFICATION INFORMATION D1(a)
BROADCAST NOTIFICATION INFORMATION D1(b)
BROADCAST NOTIFICATION INFORMATION D1(c)
NEW PROGRAM DETECTION
RECEIVABLE NOTIFICATION INFORMATION (BROADCAST PROGRAM INFORMATION REQUEST)
http://www.BCserver.com/broadcast/cid=00001115
BROADCAST PROGRAM INFORMATION 00001115.sdp
BROADCAST DATA

FIG.9

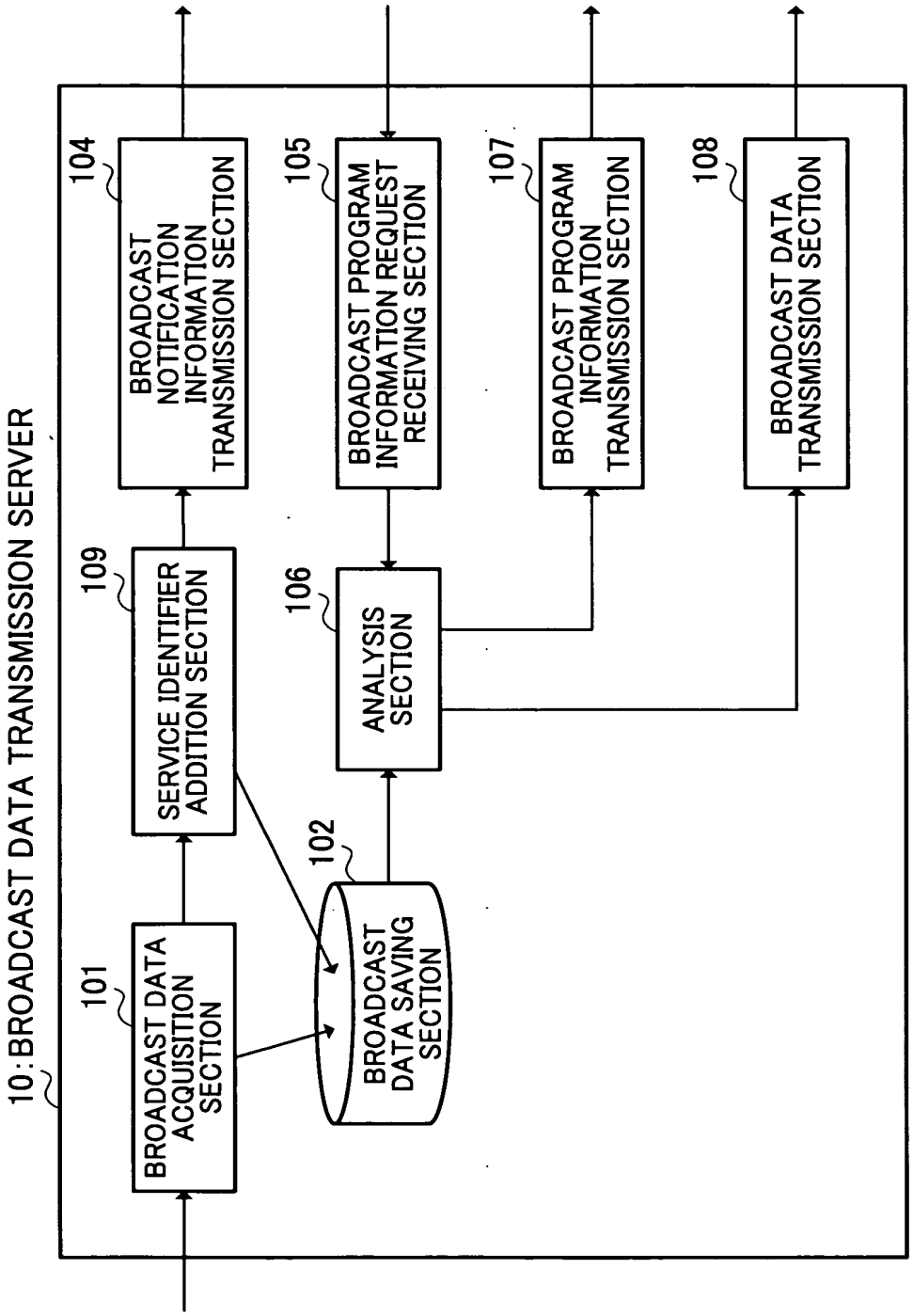

10:BROADCAST DATA TRANSMISSION SERVER
101
BROADCAST DATA ACQUISITION SECTION
102
BROADCAST DATA SAVING SECTION
104
BROADCAST NOTIFICATION INFORMATION TRANSMISSION SECTION
105
BROADCAST PROGRAM INFORMATION REQUEST RECEIVING SECTION
106
ANALYSIS SECTION
107
BROADCAST PROGRAM INFORMATION TRANSMISSION SECTION
108
BROADCAST DATA TRANSMISSION SECTION
109
SERVICE IDENTIFIER ADDITION SECTION

FIG.10

BROADCAST NOTIFICATION INFORMATION D1(d)

d4

D3

```
<service genre="BCsport" sid="jdlafdkala" info="【SPORTS LIVE】" >
<a href="http://www.BCserver.com/broadcast/cid=00001101">BASEBALL</a>
<a href="http://www.BCserver.com/broadcast/cid=00001114">SOCCER</a>
<a href="http://www.BCserver.com/broadcast/cid=00001132">TENNIS</a>
<a href="http://www.BCserver.com/broadcast/cid=00001234">SKATING</a>
</service>
```

BROADCAST NOTIFICATION INFORMATION D1(e)

```
<service genre="BCsport" sid="jdlafdkala" info="【SPORTS LIVE】" >
<a href="http://www.BCserver.com/broadcast/cid=00001101">BASEBALL</a>
<a href="http://www.BCserver.com/broadcast/cid=00001114">SOCCER</a>
<a href="http://www.BCserver.com/broadcast/cid=00001132">TENNIS</a>
<a href="http://www.BCserver.com/broadcast/cid=00001234">SKATING</a>
</service>
```

BROADCAST NOTIFICATION INFORMATION D1(f)

```
<service genre="BCsport" sid="lslfjdfdal" info="【SPORTS LIVE】" >
<a href="http://www.BCserver.com/broadcast/cid=00001101">BASEBALL</a>
<a href="http://www.BCserver.com/broadcast/cid=00001115">SOCCER</a>
<a href="http://www.BCserver.com/broadcast/cid=00001132">TENNIS</a>
<a href="http://www.BCserver.com/broadcast/cid=00001234">SKATING</a>
</service>
```

← NEW PROGRAM

FIG.11

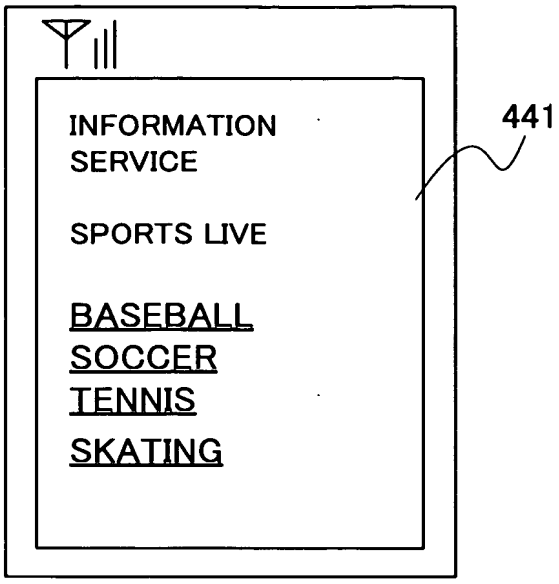

INFORMATION SERVICE
SPORTS LIVE
BASEBALL
SOCCER
TENNIS
SKATING
441

FIG.12

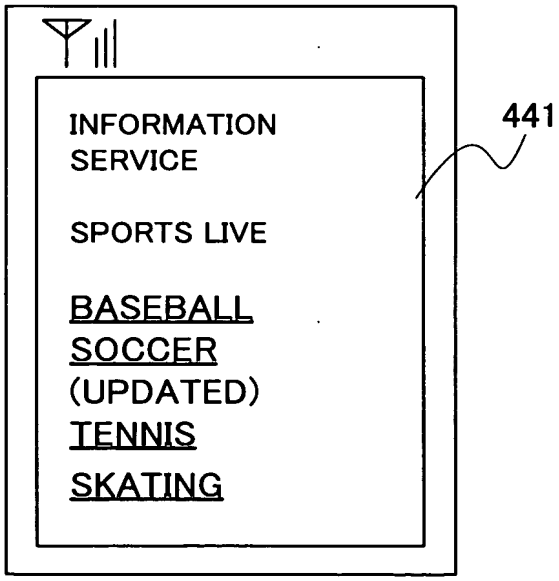

INFORMATION SERVICE
SPORTS LIVE
BASEBALL
SOCCER
(UPDATED)
TENNIS
SKATING
441

FIG.13

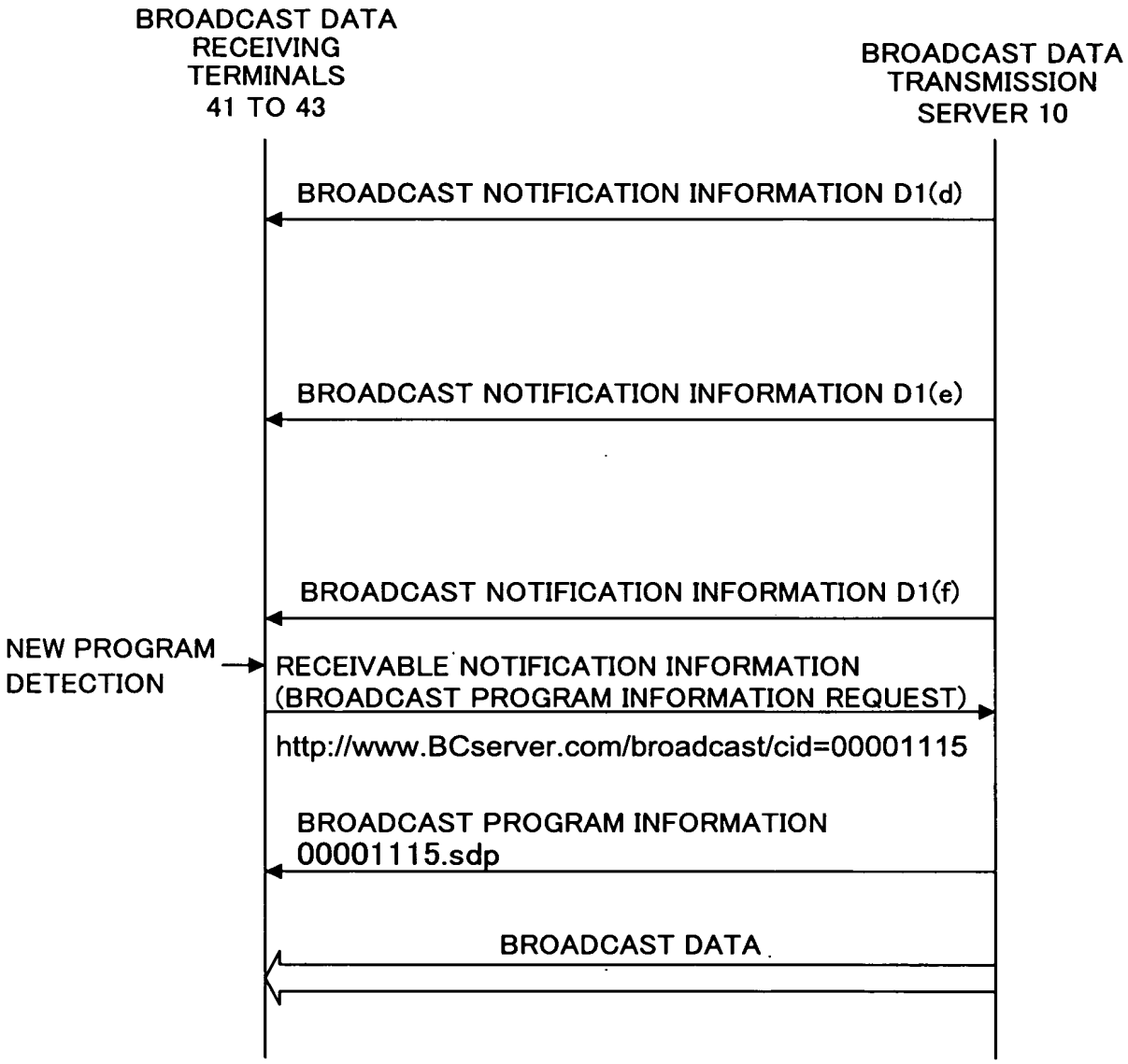

BROADCAST DATA RECEIVING TERMINALS 41 TO 43
BROADCAST DATA TRANSMISSION SERVER 10
BROADCAST NOTIFICATION INFORMATION D1(d)
BROADCAST NOTIFICATION INFORMATION D1(e)
BROADCAST NOTIFICATION INFORMATION D1(f)
NEW PROGRAM DETECTION
RECEIVABLE NOTIFICATION INFORMATION (BROADCAST PROGRAM INFORMATION REQUEST)
http://www.BCserver.com/broadcast/cid=00001115
BROADCAST PROGRAM INFORMATION 00001115.sdp
BROADCAST DATA

FIG.14

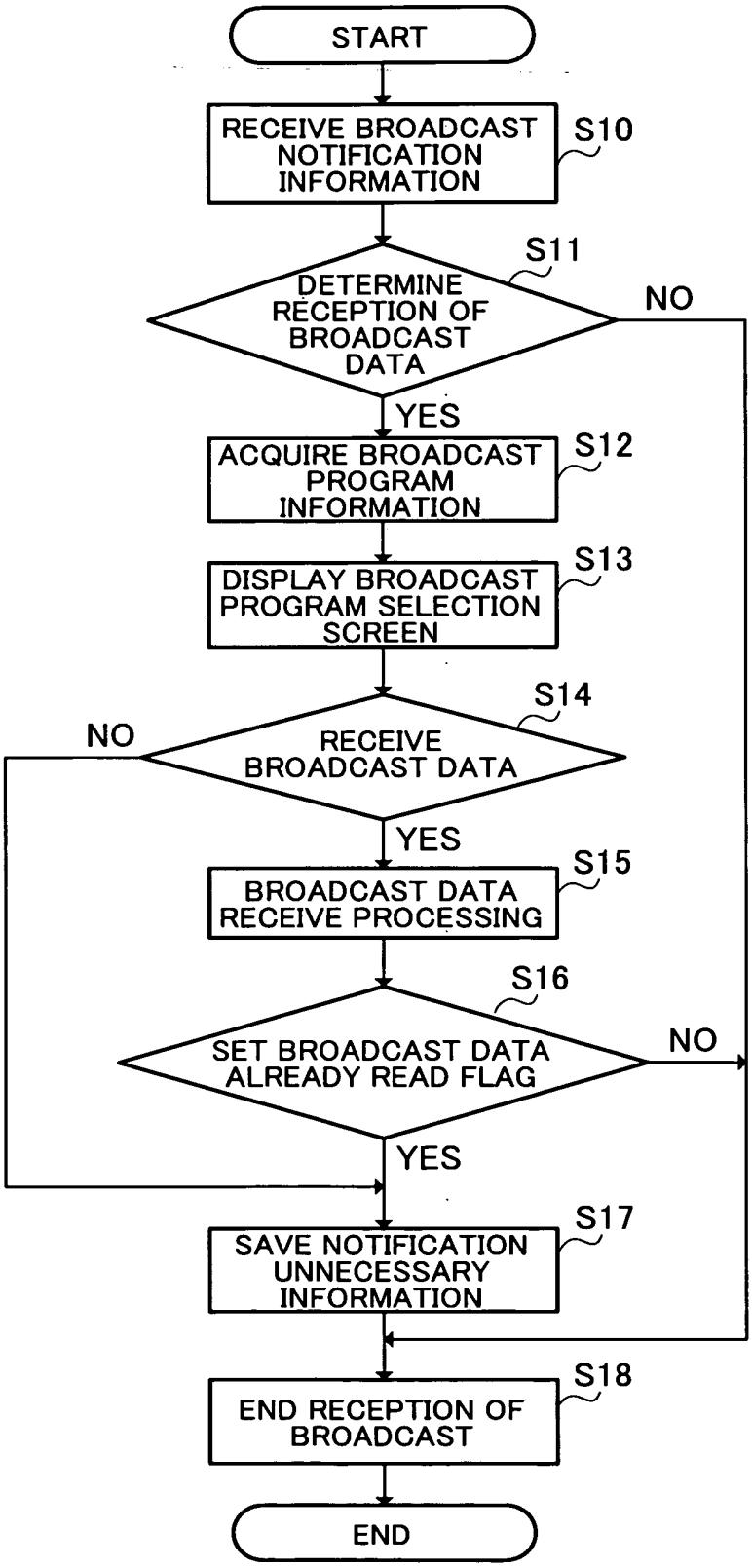

START
RECEIVE BROADCAST NOTIFICATION INFORMATION
S10
DETERMINE RECEPTION OF BROADCAST DATA
S11
NO
YES
ACQUIRE BROADCAST PROGRAM INFORMATION
S12
DISPLAY BROADCAST PROGRAM SELECTION SCREEN
S13
RECEIVE BROADCAST DATA
S14
NO
YES
BROADCAST DATA RECEIVE PROCESSING
S15
SET BROADCAST DATA ALREADY READ FLAG
S16
NO
YES
SAVE NOTIFICATION UNNECESSARY INFORMATION
S17
END RECEPTION OF BROADCAST
S18
END

FIG.15

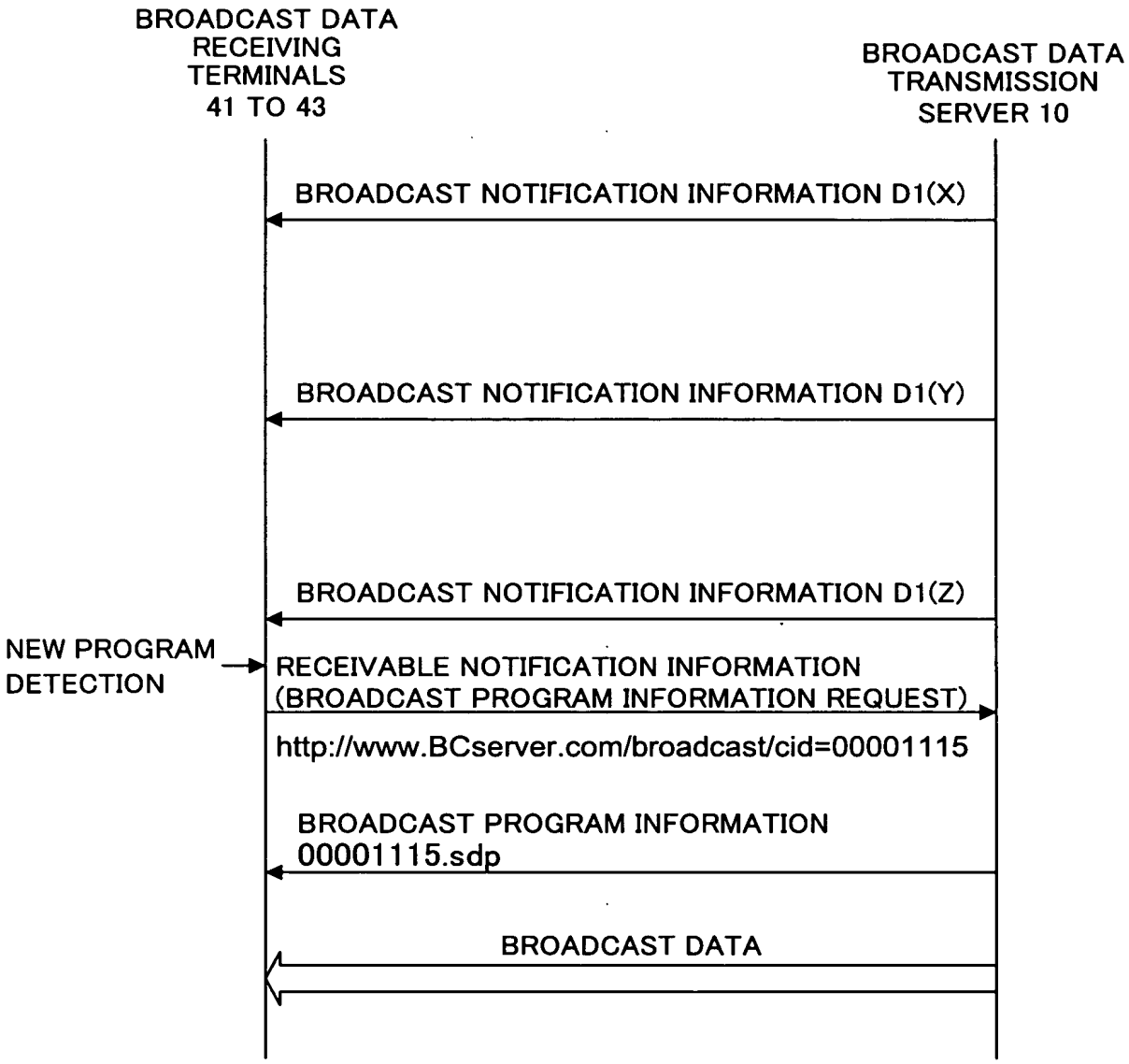

BROADCAST DATA RECEIVING TERMINALS 41 TO 43
BROADCAST DATA TRANSMISSION SERVER 10
BROADCAST NOTIFICATION INFORMATION D1(X)
BROADCAST NOTIFICATION INFORMATION D1(Y)
BROADCAST NOTIFICATION INFORMATION D1(Z)
NEW PROGRAM DETECTION
RECEIVABLE NOTIFICATION INFORMATION (BROADCAST PROGRAM INFORMATION REQUEST)
http://www.BCserver.com/broadcast/cid=00001115
BROADCAST PROGRAM INFORMATION 00001115.sdp
BROADCAST DATA

FIG.16

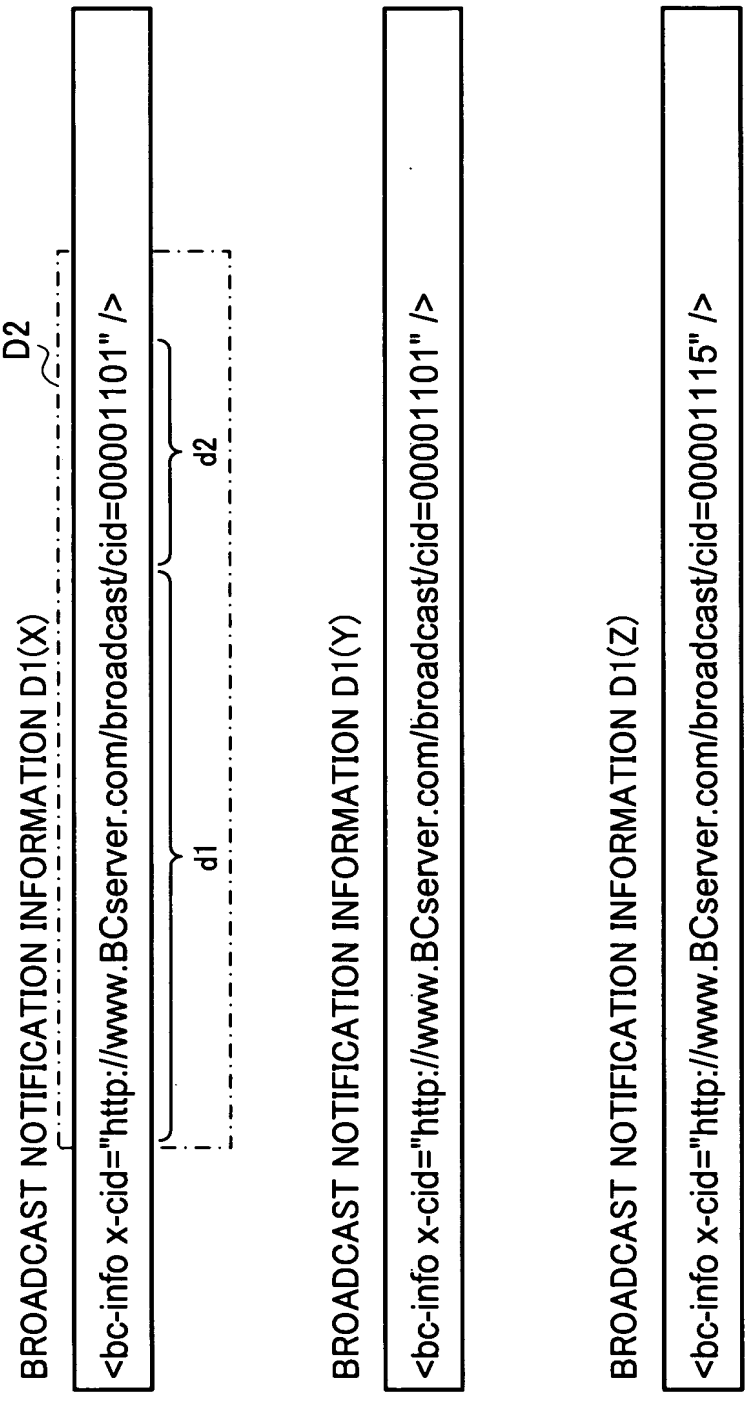

BROADCAST NOTIFICATION INFORMATION D1(X)
D2
<bc-info x-cid="http://www.BCserver.com/broadcast/cid=00001101" />
d1
d2
BROADCAST NOTIFICATION INFORMATION D1(Y)
<bc-info x-cid="http://www.BCserver.com/broadcast/cid=00001101" />
BROADCAST NOTIFICATION INFORMATION D1(Z)
<bc-info x-cid="http://www.BCserver.com/broadcast/cid=00001115" />

FIG.17

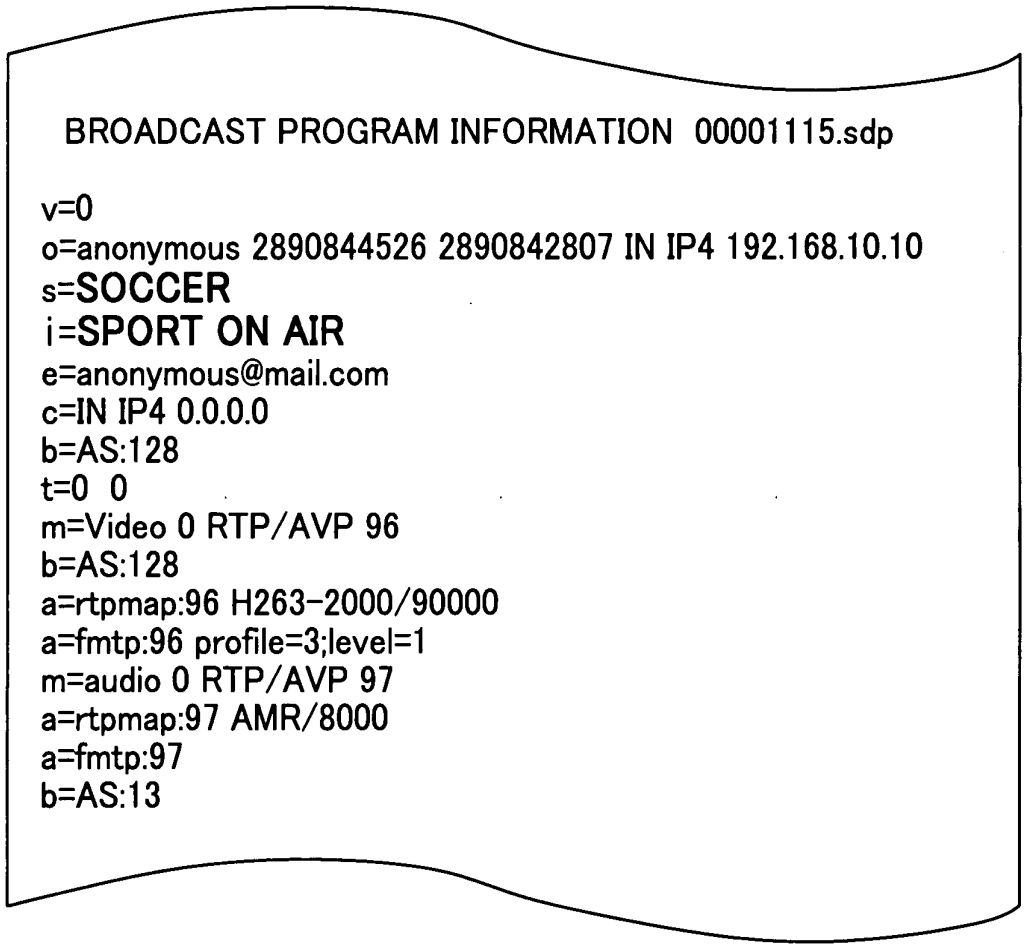

BROADCAST PROGRAM INFORMATION 00001115.sdp
v=0
o=anonymous 2890844526 2890842807 IN IP4 192.168.10.10
s=SOCCER
i=SPORT ON AIR
e=anonymous@mail.com
c=IN IP4 0.0.0.0
b=AS:128
t=0 0
m=Video 0 RTP/AVP 96
b=AS:128
a=rtpmap:96 H263-2000/90000
a=fmtp:96 profile=3;level=1
m=audio 0 RTP/AVP 97
a=rtpmap:97 AMR/8000
a=fmtp:97
b=AS:13

FIG.18

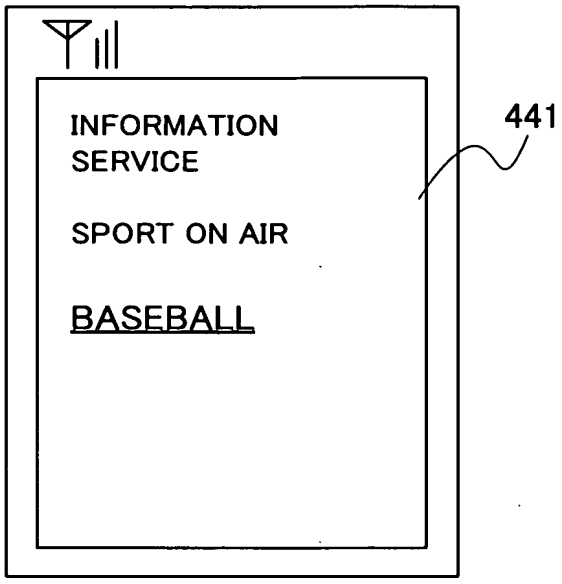

INFORMATION
SERVICE
SPORT ON AIR
BASEBALL
441

FIG.19

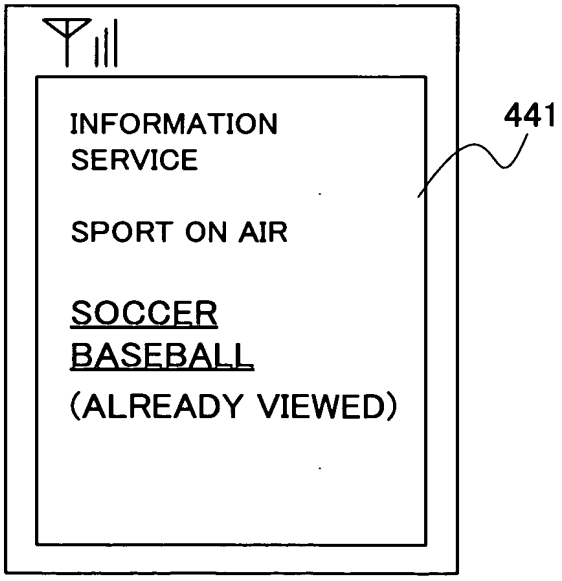

INFORMATION
SERVICE
SPORT ON AIR
SOCCER
BASEBALL
(ALREADY VIEWED)
441

FIG.20